ATTACHMENT 1-C: San Bernardino draft MS4 Permit Comments—New Development and Significant Redevelopment

FINDINGS

A. **New Development/Significant Redevelopment – WQMP/LID**

1. Significant numbers of development projects have taken place in San Bernardino County in the last decade. These developments have resulted in the urbanization of many areas. Urbanization generally increases storm water runoff volume, velocity and the amount of pollutants in the runoff. As development occurs, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, impervious surfaces (e.g., concrete surface) can neither absorb water nor remove pollutants. Additionally, conventional urban development generally increases pollutant loads as the increased population density causes proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage wastes, pesticides, household hazardous wastes, lawn fertilizers, pet wastes, trash, and other anthropogenic pollutants.
2. Urbanization especially threatens environmentally sensitive areas as well as stream habitat and structure. Such areas have much less capacity to assimilate increased pollutant loads. Therefore, development that would otherwise have minimal impact on the environment may adversely impact a sensitive environment. These State designated environmentally sensitive areas (ESAs) include those areas designated in the Basin Plan as supporting the following beneficial uses: (1) “Rare, Threatened, or Endangered Species (RARE)”; (2) “Wildlife Habitat (WILD)”; (3) “Spawning, Reproduction, and Development (SPWN)”; and (4) “Preservation of Biological Habitats of Special Significance (BIOL)”.
3. Increased volumes and velocities of storm water discharges from MS4s into natural watercourses can cause stream bank erosion and physical modifications that adversely impact aquatic ecosystems and stream habitat. These changes are the result of ~~collectively termed~~ hydromodification. For the permitted area, the remaining natural streams in the mountains and in lightly urbanized or undeveloped portions of the watershed are most likely to experience adverse impacts due to new development or significant redevelopment projects. ~~These areas are also sources of high quality water in the region.~~
4. On October 5, 2000, the State Board adopted Order No. WQ-2000-11, which required that urban runoff generated by 85th percentile storm events from specific types of development categories (priority projects) be infiltrated, filtered or treated. The essential elements of this precedential Order were

incorporated into the third term permit, and are incorporated herein. In accordance with the requirements specified in the third term permit, the Permittees developed a model Water Quality Management Plan (WQMP) Guidance and Template and are currently implementing the essential elements of the approved model WQMP.

5. Recent studies (cite stuies) by the USEPA have indicated that low impact development[1] LID~~is~~ may be an effective storm water management approach that may minimize ~~minimizes~~adverse impacts on storm water runoff quality and quantity resulting from urban developments. However, the USEPA noted in its studies of LID techniques that "data regarding both the effectiveness of [LID] practices and their costs remain limited." The USEPA specifically noted that "more research is needed to quantify the environmental benefits that can be achieved through the use of LID techniques." The Southern California Monitoring Coalition (SMC), including the project lead agency (the San Bernardino County Flood Control District), in collaboration with SMC member Southern California Coastal Water Research Project (SCCWRP) and the California Storm Water Quality Association (CASQA), with funding from the State Water Resources Control Board and CASQA is developing a Low Impact Development Manual for Southern California. This manual will be incorporated into the CASQA BMP Handbooks. The Permittees will incorporate, where feasible and practicable, the LID process outlined in this manual into a revised version of the WQMP.

6. This Order requires the project proponents to first consider preventative and conservation techniques (e.g., preserve and protect natural features to the maximum extent practicable) prior to considering mitigative techniques (structural treatment, such as infiltration systems). The mitigative measures should be prioritized with the highest priority for BMPs that remove storm water pollutants and reduce runoff volume, such as infiltration, then other BMPs, such as harvesting and re-use, evapotranspiration and bio-treatment[2] should be considered. ~~To the maximum extent practicable, these LID BMPs must be implemented at the project site.~~ The Regional Board recognizes that site conditions, including site soils, contaminant plumes, high groundwater levels, etc., could limit the applicability of infiltration and other LID BMPs at certain project sites. Where LID BMPs are not feasible at the project site, more traditional[3], but equally effective control measures should be considered~~implemented~~. This Order provides for alternatives and in-lieu programs where preferred BMPs ~~LID BMPs~~ are infeasible.

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[1] Low impact development is an approach to land development (or re-development) that works with nature to manage storm water as close to its source as possible by using structural and non-structural best management practices to reduce environmental impacts.

[2] In general, these types of BMPs utilize vegetation that promote pollutant uptake and evapotranspiration and/or natural or soil type media filtration with volume retention capacity and ability to reduce pollutant concentration.

[3] Typical engineered and/or proprietary treatment devices that capture/filter pollutants but do not contribute to maintenance of pre-development site hydrology. Examples are vortex separators, catch basin filters.

7. The USEPA has determined, based on limited data, that LID/green infrastructure can be a cost-effective and environmentally preferable approach for the control of storm water pollution and to minimize downstream impacts by minimizing the changes in hydrology ~~limiting the effective impervious area~~ of a development site. LID and the reduction or hydraulic disconnection of impervious areas from runoff conveyance systems, may achieve multiple environmental and economic benefits in addition to enhanced water quality and supply, stream and habitat protection, cleaner air, reduced urban temperature, increased energy efficiency and other community benefits such as aesthetics recreation, and wildlife areas. USEPA has reviewed a limited number of studies[4] that have evaluated relationships between the percentage of effective impervious area (EIA) and physical degradation of stream channels (also see the SCCWRP study[5]). The limited study conducted by Dr. Richard Horner concluded that a 3% EIA standard for development is feasible in Ventura County. USEPA believes that EIA ~~is~~may be a reasonable metric for incorporating LID principles into storm water permits and USEPA supports equally effective metrics for compliance determination. This Order incorporates a volume capture metric based on the design volume specified in the WQMP and the EIA metrics.

8. It is recognized that LID principles are universal concepts, however, their applicability is dependent on site-specific factors such as: soil conditions including soil compaction and permeability, groundwater levels, soil contaminants (brown field development), space restrictions (in-fill projects, redevelopment projects, high density development, transit-oriented developments), etc. In the event that LID techniques, particularly infiltration, evapotranspiration, capture-reuse, and/or biotreatment BMPs are not feasible at a site, alternatives and in-lieu programs are included, where practicable, that will address water quality/quantity concerns.

9. The model WQMP Guidance and Template provide a framework to incorporate some of the watershed protection principles into the Permittees' planning, construction and post-construction phases of priority projects. The model WQMP requires site design (including, where feasible, LID principles), source control and treatment control elements to reduce the discharge of pollutants in urban runoff. On April 30, 2004, the Regional Board approved the model WQMP Guidance and Template. The Permittees are requiring project proponents to develop and implement site-specific WQMPs. This Order requires the Permittees to verify functionality of post-construction

[4] See Southern California Coastal Water Research Project, "Managing Runoff to Protect Natural Streams: The Latest Developments on Investigation and Management of Hydromodification in California", dated December 30, 2005, Eric Stein and Susan Zaleski and the analysis prepared by Dr. Richard Horner entitled, "Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County" submitted to Los Angeles Regional Board by NRDC

[5] Studies conducted by Southern California Coastal Water Research Project (SCCWRP) and others indicate that environmental impacts from developments could be minimized by limiting the effective impervious area.

structural BMPs prior to issuance of certificate of occupancy and to track and ensure long term operation and maintenance of post-construction BMPs in approved WQMPs.

10. An audit of each of the Permittees' storm water management programs during the third term permit indicated no clear nexus between the watershed protection principles, including LID techniques, specified in the WQMP and the Permittees' General Plan or related documents such as Development Standards, Zoning Codes, Conditions of Approval, Project Development Guidance, etc. ~~It appears that many of the existing procedures, Development Standards, Ordinances and Municipal Codes may include barriers for implementation of LID techniques.~~ This Order requires the Permittees to review and ~~revise~~ evaluate the Permittees' CEQA documentation, General Plan, Comprehensive or Master Plan, Municipal Codes, Subdivision Ordinances, Project Development Standards, Conditions of Approval or related documents to determine whether removal ~~remove~~ of any barriers, within their control, is feasible for implementation of LID techniques and other requirements of this Order. Where feasible, the Permittees will make appropriate changes to remove barriers to implementation of LID techniques and other requirements of this Order.
11. This Order also requires the Permittees to review and enforce Covenants, Conditions and Restrictions (CC&R) or other mechanisms for proper long term operation and maintenance of post-construction BMPs.
12. In addition to addressing post-development urban storm water quality, the WQMP includes requirements to protect environmentally sensitive areas and to address potential hydromodification issues that may result from each project. Section 2.3 of the WQMP requires identification of hydrologic conditions of concern (HCOC). An HCOC exists when a site's hydrologic regime is altered and there are likely to be significant[6] impacts on downstream channels and aquatic habitats, alone or in conjunction with impacts of other projects. Currently, new development and significant re-development projects are required to perform this assessment and incorporate appropriate BMPs to ensure existing hydrologic conditions are maintained. This Order requires the Permittees to implement, where feasible, LID techniques to minimize HCOC and supports the implementation of in-stream hydromodification protection and/or mitigation alternatives where appropriate.
13. Management of the impacts of urbanization on water quality, stream stability and aquatic habitats is more effective if the techniques are implemented based on an overall watershed plan, whether done at the project site, within the neighborhood or within each municipality. During the third term permit, the Permittees initiated a watershed mapping project to develop a GIS-based

[6] It is expected that the current HCOC mapping effort and stream/risk characterization effort will define what should be considered as significant impact or stream vulnerability to hydromodification on a watershed basis.

map of the permitted area with the goal of identifying and developing specific action plans for protecting those segments of streams and channels that are vulnerable to impacts from urbanization.

14. The Regional Board and the Permittees recognize the importance of watershed management initiatives and regional planning and coordination in the development and implementation of programs and policies related to water quality protection. A number of such efforts are underway where the Permittees are active participants, including the Stormwater Quality Standards Task Force and the Middle Santa Ana River Watershed TMDL Task Force. This Order encourages continued participation in such programs. Furthermore, this Order recognizes that some of these planning efforts may result in significant changes to the Basin Plan. This Order may be reopened to address such changes. The Executive Officer is authorized to approve, after proper public notification, any request for reallocation of monitoring funds from lower priority local programs to regional monitoring programs.

~~15. This Order also requires the Permittees to develop a Watershed Action Plan to address cumulative impacts of development on vulnerable streams, preserve or restore to the maximum extent practicable the structure and function of streams in the permitted area, and protect surface water quality and groundwater recharge areas. The Watershed Action Plan should integrate hydromodification and water quality management strategies with land use planning policies, ordinances, and plans within each jurisdiction.~~

16. ~~Pending completion of a Watershed Action Plan, the~~The Permittees are required to address the impacts of urbanization as required under the approved model WQMP by requiring project proponents to develop and implement project-specific WQMPs.

17. If not properly designed and maintained, the structural treatment control BMPs could create a nuisance and/or habitat for vectors[7] (e.g., mosquitoes and rodents). Third term permit required the Permittees to closely collaborate with the local vector control agencies during the development and implementation of such treatment systems. The Permittees should continue these collaborative efforts with the vector control agencies to ensure that treatment control systems do not become a nuisance or a potential source of pollutants. The requirements specified in this Order include identification of responsible agencies for maintaining the systems and for providing funding for operation and maintenance.

18. If not properly designed and maintained, groundwater infiltration systems could also adversely impact groundwater quality. Restrictions placed on urban runoff infiltration in this Order (Section XI.D.11) are based on

[7] Managing Mosquitoes in Stormwater Treatment Devices, Marco E. Metzger, University of California Davis, Division of Agriculture and Natural Resources, Publication 8125.

recommendations provided by the USEPA Risk Reduction Laboratory. The Permittees should work closely with the water districts and water conservation districts to ensure groundwater protection.

XI. NEW DEVELOPMENT (INCLUDING SIGNIFICANT RE-DEVELOPMENT)

A. **General Requirements:**

1. Each Permittee shall continue to ensure (prior to issuance of any local permits or other approvals) that all non-permittee construction sites that are one acre or greater, and sites less than one acre if part of a common plan of development have filed with the State Board a Notice of Intent for coverage under the State's General Construction Permit and have been issued a valid Waste Discharge Identification (WDID) number. Each Permittee shall describe its General Permit coverage verification procedures in its LIP.
2. Each Permittee shall ensure that the erosion and sediment control plans it approves include appropriate erosion and sediment control BMPs (e.g., erosion control measures for sloped or hill-side developments, ingress/egress controls, perimeter controls, run-on diversion, etc.) such that an effective combination of BMPs consistent with site risk is implemented through all phases of construction.
3. Each Permittee shall utilize the BMP studies conducted during the previous permit terms to determine the most appropriate erosion and sediment control BMPs. The conditions of approval should specify appropriate BMPs.
4. Each Permittee shall ensure, consistent with the maximum extent practicable standard, that runoff from development projects it approves, or runoff from its MS4s does not cause erosion or nuisance to adjacent or downstream properties and stream channels or allowed to flow onto private property unless appropriate easements and maintenance agreements have been approved.
5. Each Permittee shall ensure, consistent with the maximum extent practicable standard, that runoff, from development projects not regulated under this Order but allowed to be discharged into MS4s regulated under this Order, is controlled in a manner consistent with the model WQMP for the permitted area.
6. Each Permittee shall ensure that appropriate control measures to reduce erosion and maintain ~~natural~~ stream geomorphology are included in the design for replacement of existing culverts or construction of new culverts and/or bridge crossings.
7. Each Permittee shall minimize the short and long-term adverse impacts on receiving water quality from public and private new development and significant

re-development projects, as required in Section XI.D (Water Quality Management Plan), below, by continuing to review, approve, and verify implementation of project-specific WQMPs, ~~emphasizing~~encouraging implementation of LID principles, where feasible, and addressing hydrologic conditions of concern, and long term operation and maintenance mechanisms prior to project closure or issuance of certificates of occupancy.

8. Each Permittee shall participate in the development of a Watershed Action Plan, described in Section B below, to integrate water quality, stream protection and stormwater management and re-use within the permitted area with land use planning policies, ordinances, and plans.

B. Watershed Action Plan (Section to be revised)

1. An integrated watershed management approach is essential to integrate planning and approval processes with water quality and quantity control measures. Management of the impacts of urbanization on water quality and stream stability can be more effectively managed on a per site, sub-regional or regional basis through a Watershed Action Plan. Pending completion of a Watershed Action Plan, management of the impacts of urbanization shall be accomplished on a per project basis.
2. Within 12 months of adoption of this Order, the Principal Permittee shall facilitate the formation of a technical advisory committee (TAC) consisting of the Community Development/Planning Department directors and City/County Engineers of the Permittees to develop a Watershed Action Plan and to address other issues related to urban and storm water runoff management and planning and approval processes within each jurisdiction.
3. Within eighteen (18) months of adoption of this Order, Principal Permittee, in collaboration with the Co-Permittees and the TAC, shall develop a Watershed Action Plan. At a minimum, the Watershed Action Plan shall include the following:
   a. Integrate water quality, stream protection, storm water management, water conservation and re-use, and flood protection with land use planning policies and ordinances.
   b. Delineate existing unarmored or soft-armored drainages in the permitted area that are vulnerable to geomorphological changes due to hydromodification and those channels and streams that are hardened and engineered.
   c. Incorporate a watershed re-development plan and identify implementation tools for highly urbanized areas to prevent further degradation and to restore functionality of hardened and engineered streams and channels, consistent with the maximum extent practicable standard.
   d. Address sediment yield and balance on a watershed, subwatershed, and regional basis to ensure that sediment supply is appropriate for post-development flow.

e. Identify impaired waters [CWA § 303(d) listed] with and without approved TMDLs, pollutants causing impairment, monitoring programs for these pollutants, control measures, including any BMPs that the Permittees are currently implementing, and any BMPs the Permittees are proposing to implement. In addition, if a TMDL has been developed and an implementation plan is yet to be developed, the Watershed Action Plan shall specify that the responsible Permittees should develop constituent specific source control measures, conduct additional monitoring and/or cooperate with the development of an implementation plan.

f. Facilitate integrated planning for water quality/quantity that includes urban and storm water runoff management and stream channel and hydromodification controls by utilizing an overlay GIS map of the impaired waters [CWA § 303(d) listed], potential storm water recharge areas and/or reservoirs, vulnerable streams and hardened and engineered MS4s.

g. Incorporate low impact development techniques, Smart Growth principles[8], New Urbanism[9], urban runoff capture, treatment, and re-use, water conservation principles in landscape choices and design, preservation of existing unarmored or soft-armored drainages and flood plains into new development and redevelopment plans.

h. Include development strategies that provide incentives for redevelopment, brownfield development, high density, vertical density, mixed use and transit-oriented development, and water conservation and re-use projects.

i. Specify monitoring requirements for hydromodification and water quality to evaluate the effectiveness of the control measures contained in the Watershed Action Plan.

j. Invite participation and comments from resource conservation districts, water and utility agencies, state and federal agencies, non-governmental agencies and other interested parties in the development of this watershed strategy.

4. Within three years of adoption of this Order, each Permittee shall review the watershed protection principles and policies in its General Plan or related documents (such as Development Standards, Zoning Codes, Conditions of Approval, Development Project Guidance) to determine consistency with the Watershed Action Plan. Each Permittee shall report the findings in the annual report along with a schedule for any necessary revision.

[8] Smart Growth refers to the use of creative strategies to develop ways that preserve natural lands and critical environmental areas, protect water and air quality, and reuse already-developed land.

[9] New Urbanism is somewhat similar to Smart Growth and is based on principles of planning and architecture that work together to create human-scale, walkable communities that preserve natural resources.

C. **Consideration of Watershed Protection Principles in California Environmental Quality Act (CEQA) and Planning Processes**:

1. Within twelve months of adoption of this Order, each Permittee shall review the watershed protection principles and policies, specifically addressing urban and storm water runoff, in its planning procedures, including CEQA preparation, review and approval processes; General Plan and related documents including, but not limited to its Development Standards, Zoning Codes, Conditions of Approval, Development Project Guidance; and WQMP development and approval processes.

2. The review required under C.1, shall ensure that urban runoff issues and water quality considerations are properly considered and addressed. The need for 401 certification for a project shall be identified early in the CEQA review to enable coordination with Regional Board 401 staff on the preliminary WQMP prior to City/County approval of the WQMP. The CEQA review and document preparation processes should be revised to consider ~~and mitigate~~the short and long term impacts of the project, and shall specify measures that must be implemented to mitigate those impacts. If the mitigation measures require long term operation and maintenance monitoring, the CEQA document shall so specify or incorporate by reference where the information may be found. The following potential impacts shall be considered during CEQA review:

   a. Potential impact of project construction on storm water runoff.

   b. Potential impact of project's post-construction activity on storm water runoff.

   c. Potential for discharge of storm water pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.

   d. Potential for discharge of storm water to affect the beneficial uses of the receiving waters.

   e. Potential for significant changes in the flow velocity or volume of storm water runoff to cause environmental harm.

   f. Potential for significant increases in erosion of the project site or surrounding areas.

3. The review specified in C.1 &2, above, shall identify, and recommend solutions to eliminate, barriers to implement watershed protection principles and policies, including but not limited to the low impact development (LID) principles and management of hydrologic conditions of concerns (see Section E, below). The Principal Permittee shall collaborate with the TAC and the Co-Permittees to resolve any impediments to implementing watershed protection principles during the planning and development processes. The Principal Permittee shall collaborate with the Co-Permittees and the TAC to develop common development standards, zoning codes, conditions of approval and

other principles and policies necessary for water quality protection. Any changes to the project approval procedures shall be reflected in the LIP. The watershed protection principles and policies should include the following:

a. Limit disturbance of natural water bodies and drainage systems; conserve natural areas; protect slopes and channels; minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies;

b. Minimize changes in hydrology and pollutant loading; require incorporation of controls including structural and non-structural BMPs to mitigate any projected increases in pollutant loads and flows; ensure that post-development runoff rates and velocities from a site do not adversely impact downstream erosion, stream habitat; minimize the quantity of storm water directed to impermeable surfaces and the MS4s; maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground;

c. Preserve wetlands, riparian corridors, and buffer zones; establish reasonable limits on the clearing of vegetation from the project site;

d. Use properly designed and well maintained water quality wetlands, biofiltration swales, watershed-scale retrofits, etc., where such measures are likely to be effective and technically and economically feasible;

e. Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site; and

f. Establish development guidelines for areas particularly susceptible to erosion and sediment loss.

g. Consider pollutants of concern (identified in the risk-based analysis provided in the 2006 ROWD, the annual reports and the list of impaired waterbodies (303(d) list)) and propose appropriate control measures.

4. Within 12 months following the review specified in C.1 &2, above, each Permittee shall incorporate the following information into its LIP and its project approval process:

a. Each Permittee shall identify and map in GIS format the natural channels, wetlands, riparian corridors and buffer zones and identify conservation and maintenance measures for these features. The Watershed Action Plan should include information needed for this effort. This requirement may be met through development of areawide HCOC maps or other joint efforts.

b. Each Permittee shall include the ordinances, design standards, procedures and other tools it uses to implement green infrastructure/low impact development principles for public and private development projects.

c. Each Permittee shall describe development strategies including incentives for redevelopment, brownfield development, high density, vertical density, mixed use and transit-oriented developments, and water conservation and re-use projects.

d. For hillside development projects, each Permittee shall consider and facilitate application of landform grading techniques[10] and revegetation as an alternative to traditional approaches, particularly in areas susceptible to erosion and sediment loss.

5. Each Permittee shall provide Regional Board staff with the draft amendment or revision when a pertinent General Plan element or the General Plan is noticed for comment in accordance with Govt. Code § 65350 et seq.

D. Water Quality Management Plan (WQMP) Requirements[11]:

1. Each Permittee shall continue to require project-specific Water Quality Management Plans (WQMP) for priority projects listed under Section XI.D.4.a to j.
2. Within 12 months of adoption of this Order, the Principal Permittee shall coordinate the revision of the WQMP Guidance and Template to include new elements required under this Order.
3. Each Permittee shall require submittal of a preliminary project-specific WQMP as early as possible during the environmental review or planning phase (land use entitlement). No building or grading permit shall be issued prior to approval of the final project–specific WQMP that is ~~in substantial conformance with~~developed based on the preliminary project-specific WQMP and any recommended revisions.
4. The implementation~~combination~~ of LID techniques (where feasible) site design BMPs, source control BMPs, ~~LID BMPs~~, and/or treatment control BMPs, including regional treatment systems, in project-specific WQMP~~s~~S shall address all identified pollutants and hydrologic conditions of concern from new development and/or significant re-development projects for the categories of projects (priority projects) listed below:
   a. All significant re-development projects. Significant re-development is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety. Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing developed site, and the

[10] http://www.epa.gov/region3/mtntop/pdf/Appendixes/Appendix%20D%20Aquatic/Aquatic%2OEcosystem%20Enhanc.%20Symp/Proceedings/Support%20Info/Schor/Landform.pdf

[11] Priority projects are those listed under Section XI.D.4.a to j.

existing development was not subject to WQMP requirements, the numeric sizing criteria discussed below applies only to the addition or replacement, and not to the entire developed site. Where redevelopment results in an increase of more than fifty percent of the impervious surfaces of a previously existing developed site, the numeric sizing criteria applies to the entire development.

b. New development projects that create 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial, industrial, residential housing subdivisions (i.e., detached single family home subdivisions, multi-family attached subdivisions or townhomes, condominiums, apartments, etc.), mixed-use, and public projects. This category includes development projects on public and private land, which fall under the planning and building authority of the Permittees.

c. Automotive repair shops (with SIC codes 5013, 5014, 5541, 7532-7534, 7536-7539).

d. Restaurants (with SIC code 5812) where the land area of development is 5,000 square feet or more.

e. All hillside developments of 5,000 square feet or more which are located on areas with known erosive soil conditions or where the natural slope is twenty-five percent or more.

f. Developments of 2,500 square feet of impervious surface or more adjacent to (within 200 feet) or discharging directly[12] into environmentally sensitive areas (ESAs) such as areas designated in the Ocean Plan as areas of special biological significance or waterbodies listed on the CWA Section 303(d) list of impaired waters.

g. Parking lots of 5,000 square feet or more exposed to storm water. Parking lot is defined as land area or facility for the temporary parking or storage of motor vehicles.

~~h. Street, roads, highways, and freeways[13] of 5,000 square feet or more of paved surface shall incorporate USEPA guidance, "Managing Wet Weather with Green Infrastructure: Green Streets" to the maximum extent practicable. This category includes any paved surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles and excludes any routine road maintenance activities where the footprint is not changed.~~

i. Retail Gasoline Outlets (RGOs) that are either 5,000 sq feet or more, or has a projected average daily traffic of 100 or more vehicles per day.

j. Emergency public safety projects in any of the above-listed categories may be excluded if the delay caused due the requirement for a WQMP compromises public safety, public health and/or environmental protection.

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[12] Discharging directly means a drainage or conveyance which carries flows entirely from the subject development and not commingled with any other flows.

[13] Provide a waiver for high pollution potential areas such as gas stations, convenience stores, industrial sites with significant exposure of materials, equipment and processes.

4. WQMPs shall include BMPs for source control, pollution prevention, site design, LID implementation, where feasible, (see Section E, below) and structural treatment control BMPs. WQMPs shall include control measures for any listed pollutant[14] to an impaired waterbody on the 303(d) list such that the discharge shall not cause or contribute to an exceedance of receiving water quality objectives. The permittees shall require the following source control BMPs for each priority development project, unless formally substantiated as unwarranted in a written submittal to the Permittee:

   a. Minimize contaminated runoff, including irrigation runoff, from entering the MS4s;

   b. Provide appropriate secondary containment and/or proper covers or lids for materials storage, trash bins, and outdoor processing and work areas;

   c. Minimize storm water contact with pollutant sources;

   d. Provide community car wash and equipment wash areas that discharge to sanitary sewers;

   e. Minimize trash and debris in storm water runoff through regular street sweeping and through litter control ordinances.

   f. The pollutants in post-development runoff shall be reduced using controls that utilize best management practices, as described in the California Storm Water Quality Handbooks, Caltrans Storm Water Quality Handbook or other reliable sources.

5. Treatment control BMPs shall be in accordance with the approved model WQMP and must be sized to comply with one of the following numeric sizing criteria:

   a. VOLUME

   Volume–based BMPs shall be designed to infiltrate, harvest and reuse, filter, or treat either:

   i. The volume of runoff produced from a 24-hour, 85th percentile storm event, as determined from the County of San Bernardino's 85th Percentile Precipitation Isopluvial Map; or,

   ii. The volume of annual runoff produced by the 85th percentile, 24-hour rainfall event determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87 (1998); or,

   iii. The volume of annual runoff based on unit basin storage volume, to achieve 80 (or more volume treatment by the method recommended in

[14] For a waterbody listed under Section 303(d) of the Clean Water Act, the pollutant that is causing the impairment is the "listed pollutant.

California Stormwater Best Management Practices Handbook – Industrial/Commercial (1993); or,

iv. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile, 24-hour runoff event;

OR

b. FLOW

Flow–based BMPs shall be designed to infiltrate, harvest and reuse, filter, or treat either:

i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or,

ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or,

iii. The maximum flow rate of runoff, as determined from the local historical rainfall record that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

5. The obligation to install structural BMPs at a new development is met if, for a common plan of development, BMPs are constructed with the requisite capacity to serve the entire common project, even if certain phases of the common project may not have BMP capacity located on that phase in accordance with the requirements specified above. All treatment control BMPs should be located as close as possible to the pollutant sources, should not be located within waters of the U.S., and pollutant removal should be accomplished prior to discharge to waters of the U.S. Regional treatment control BMPs shall be completed and operational prior to occupation of any of the priority project sites tributary to the regional treatment BMP.

6. Within 24 months of adoption of this Order, the Principal Permittee shall develop recommendations for streamlining regulatory agency approval of regional treatment control BMPs. The recommendations should include information needed to be submitted to Regional Board for consideration of regional treatment control BMPs. At a minimum, it should include: BMP location; type and effectiveness in removing pollutants of concern; projects tributary to the regional treatment system; engineering design details; funding sources for construction, operation and maintenance; and parties responsible for monitoring effectiveness, operation and maintenance. The Permittees are encouraged to collaborate and work with other counties to facilitate and coordinate these recommendations.

7. **Groundwater Protection**:

Treatment Control BMPs utilizing infiltration [exclusive of incidental infiltration

and BMPs not designed to primarily function as infiltration devices (such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.)] must comply with the following: minimum requirements to protect groundwater:

a. Use of structural infiltration treatment BMPs shall not cause or contribute to an exceedance of groundwater water quality objectives.

b. Source control and pollution prevention control BMPs shall be implemented to protect groundwater quality. The need for sedimentation or filtration should be evaluated prior to infiltration.

c. Adequate pretreatment of runoff prior to infiltration shall be required in gas stations and large commercial parking lots.

d. Structural infiltration treatment BMPs must not be used for areas of industrial or light industrial activity[15]; areas subject to high vehicular traffic (25,000 or more daily traffic) automotive repair shops; car washes; fleet storage areas; nurseries; or any other high threat to water quality land uses or activities[16].

e. Structural infiltration treatment BMPs shall be located at least 100 feet horizontally from any water supply wells.

f. The vertical distance from the bottom of any infiltration structural treatment BMP to the historic high groundwater mark shall be at least 10 feet. Where the groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained.

g. Structural infiltration treatment BMPs shall not cause a nuisance or pollution as defined in Water Code Section 13050.

E. Low Impact Development (LID) and Hydromodification Management to Minimize Impacts from New Development / Significant Redvelopment

~~1. The objective of LID is to mimic pre-development site hydrology through technically and economically feasible source control and site design techniques. LID combines hydrologically functional site design with pollution prevention methods to compensate for land development impact on hydrology and water quality.~~

2. Within 12 months of adoption of this Order, each Permittee shall ~~identify any~~evaluate potential barriers to implementing LID principles. This shall be done in conjunction with the requirements specified under Sections XI.C.1 & 2. To facilitate implementation of LID BMPs, the Permittees should consider revising their ordinances, codes and building and landscape design

[15] Unless a site assessment pursuant to criteria developed in Section XI.F.2 shows that site operations do not pose a threat to ground water.

[16] This restriction applies only to sites that are known to have soil and/or groundwater contamination. Recent studies by the Los Angeles and San Gabriel Watershed Council of Storm Water Recharge has shown that there is no statistically significant degradation of groundwater quality from the infiltration of storm water-borne constituents.

standards. The Permittees shall promote green infrastructure/LID BMP implementation including but not limited to the following:

a. ~~Require landscape~~Landscape designs that promote water retention and evapotranspiration such as 1 foot depth of compost/top soil in commercial and residential areas on top of 1 foot of decompacted subsoil, concave landscape grading to allow runoff from impervious surfaces, and water conservation by selecting native plants, weather-based irrigation controllers, etc.

b. Allow permeable surface designs in low traffic roads and parking lots. This may require land use/building code amendment.

c. Allow natural drainage systems for street construction and catchments (with no drainage pipes), and allow grassy swales and ditches where feasible.

d. Require, where feasible, parking lots to drain to landscaped areas to provide treatment, retention, or infiltration.

e. Reduce curb requirements where adequate drainage, conveyance, treatment and storage are available.

f. Amend, where feasible and practicable, land use/building codes to allow streets with no curbs and parking lots with no stop blocks to allow storm water to drain into landscaped areas.

g. Require, where feasible, rainwater harvesting and reuse.

h. Consider building~~Build~~ narrow streets, alternatives to minimum parking requirements, etc.

i. Consider vegetated landscape as an integral element of streets, parking lots, playground and buildings as a storm water treatment and retention system.

j. Consider other site design BMPs identified in the WQMP Guidance and Template and not included above.

~~3. Each Permittee shall update its landscape ordinance consistent with the requirements of AB 1881. The bill requires the local agencies to adopt the State Model Water Efficient Landscape Ordinance[17] or prepare one that is "at least as effective" as the State Model by January 2010. The proposed state model ordinance applies to landscape requiring a building or landscape permit, plan check or design review. The Permittees shall annually evaluate and report the effectiveness of their landscape ordinance with respect to water efficiency and conservation goals.~~

[17] ~~http://www.owue.water.ca.gov/docs/final_reg_text.pdf~~[18] A properly engineered and maintained bio-treatment system may be considered only if infiltration, harvesting and reuse and evapotranspiration cannot be feasibly implemented at a project site (feasibility criteria will be established in the WQMP [Section XI.E.6] and the technically-based feasibility criteria [Section XI.E.6.e]). Specific design, operation and maintenance criteria for bio-treatment systems shall be part of the model WQMP that will be produced by the permittees.

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4. To reduce pollutants in urban runoff, address hydromodification, and manage storm water as a resource to the maximum extent practicable, WQMPs shall specify preferential use of site design BMPs that incorporate LID techniques, where feasible, in the following manner (from highest to the lowest priority): (1) Preventative measures (these are mostly non-structural measures, e.g., preservation of natural features to a level consistent with the maximum extent practicable standard; minimization of runoff through clustering, reducing impervious areas, etc.) and (2) Mitigative measures (these are structural measures, such as, infiltration, harvesting and reuse, bio-treatment, etc.). The mitigative or structural site design BMPs shall also be prioritized (from highest to lowest priority): (1) Infiltration BMPs (examples include permeable pavement with infiltration beds, dry wells, infiltration trenches, surface and sub-surface infiltration basins. All infiltration activities should be coordinated with the groundwater management agencies, such as the Inland Empire Utilities Agency, Water Districts, etc.; (2) BMPs that harvest and re-use (e.g., cisterns and rain barrels); and (3) Vegetated BMPs that promote evapotranspiration including bioretention, biofiltration and bio-treatment.

5. The Permittees shall reflect in the Water Quality Management Plan Guidance and Template and require each priority development project to infiltrate, harvest and re-use, evapotranspire, or bio-treat[18] the 85th percentile storm event ("design capture volume"), as specified in Section XI.D.5.I.1, above. Any portion of the design capture volume that is not infiltrated, harvested and re-used, evapotranspired or bio-treated[19] onsite by LID BMPs shall be treated and discharged in accordance with the requirements set forth in Section XI.E.8 and/or Section XI.F, below.

6. Within twelve months of adoption of this Order, the Permittees shall review and update the Water Quality Management Plan Guidance and Template to incorporate LID principles, where feasible, and to address the impact of urbanization on downstream hydrology. At a minimum, the following elements shall be included during the update:

   a. Site Design BMPs:

      ii. Review and update the menu of site design BMPs to include any LID BMP that is currently not listed.

      iii. Include as a reference for design and installation of LID BMPs the *LID Guidance Manual for Southern California* developed by the Southern California Coastal Water Research Project upon its completion.

      iv. Techniques or specifications to minimize soil compaction in areas designated for site design BMPs, especially infiltration.

      v. Review and update design, installation and test specifications for retention BMPs to prevent unwanted ponding.

[19] For ~~all references to bio-treat/bio-treatment, see footnote 85~~.

vi. Develop and utilize a credit system[20] for using site design BMPs.

vii. Necessary components and process to develop in lieu programs for projects ~~seeking a waiver~~where implementation of LID BMPs may not be feasible.

b) Source Control BMPs:

i. Review and update the menu of source control BMPs.

ii. Include design and installation standards for each structural source control BMP.

c) Treatment Control BMPs:

i. Update the list of treatment control BMPs, including an evaluation of their effectiveness based on national, statewide or regional studies.

ii. Prioritize treatment control BMPs based on their effectiveness in pollutant removal and require project proponents to select the most appropriate BMPs.

iii. Include design and installation standards for each treatment control BMP.

d) Hydrologic Conditions of Concern (HCOC):

i. The Permittees shall continue to ensure, consistent with the MEP standard, through their review and approval of project-specific WQMPs that new development and significant re-development projects:

i. do not cause a hydrologic condition of concern (HCOC), or

ii. otherwise demonstrate that the project does not have the potential to cause significant adverse impacts on downstream natural channels and habitat integrity, alone or in conjunction with the impacts of other projects likely to be implemented in the same drainage area.

ii. A development/redevelopment project does not cause a HCOC if any of the following conditions is met:

a) The project disturbs less than one acre and is not part of a common plan of development.

b) The post-development site hydrology (including runoff volume, velocity, duration, time of concentration[21],) is not significantly different from pre-development hydrology for a 1, 2, and 5-year return frequency storms.

[20] See sample credit calculation in the draft statewide construction permit. http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/draft/draftconst_att_f.xls

[21] Time of concentration is defined as the time after the beginning of rainfall when all portions of the drainage basin are contributing simultaneously to flow at the outlet.

c) All downstream conveyance channels that will receive runoff from the project are engineered, hardened and regularly maintained to ensure design flow capacity, and no sensitive stream habitat areas will be affected. This exemption is only applicable to conveyance channels that have received regulatory approvals prior to June 1, 2004, including CEQA review and approvals by US Army Corps of Engineers, Regional Board, and California Department of Fish and Game.

iii) Where flow reduction strategies are established as part of TMDL compliance plans, decreases in flow loading from pre-development conditions are allowed and encouraged where necessary to protect or restore designated beneficial uses.

iv) If a project causes a HCOC, and a Watershed Action Plan has not been approved, the WQMP shall specify one of the following:

a) Verify the project's potential to cause significant adverse impacts~~on downstream natural channels and habitat integrity, alone or in conjunction with impacts of other projects~~, by conducting a further evaluation of the projects impact on stream geomorphology and/or aquatic habitat. If this evaluation confirms the project's potential to cause significant adverse~~ downstream~~ impacts on downstream natural channels and habitat integrity, alone or in conjunction with impacts of other projects, then the project shall satisfy items b), c), d), e), or f), below. If the evaluation indicates minimal impact on stream channels and habitats, no further action is warranted.

b) Require additional onsite or offsite mitigation to reduce potential erosion or impacts to aquatic habitats by using LID BMPs, where feasible, or other control measures.

c) Require in-stream controls[22] to mitigate the impacts on downstream natural channels and habitat integrity. The project proponent should first consider site design controls and on-site controls prior to proposing in-stream controls; in-stream controls must not adversely impact beneficial uses or result in sustained degradation of water quality of the receiving waters and shall require all necessary regulatory approvals[23].

[22] In-stream measures involve modifying the receiving stream channel slope and geometry so that the stream can convey the new flow regime without increasing the potential for erosion and aggradation. In-stream measures are intended to improve long-term channel stability and prevent erosion by reducing the erosive forces imposed on the channel boundary.

[23] In-stream control projects require a Streambed Alteration Agreement from the California Department of Fish &
Game, a CWA section 404 permit from the U.S. Army Corps of Engineers, and a section 401 certification from the Water Board. Early discussions with these agencies on the acceptability of an in-stream modification are necessary to avoid project delays or redesign.

d) Mitigate the HCOC impact by requiring the project to have no more than ~~3%~~ 5% effective impervious area[24].

e) Mitigate the HCOC through implementation of the approved Watershed Action Plan.

f) If site conditions do not permit items b), c), or d) above, the alternatives and in-lieu programs discussed under Section F, below, may be considered.

v) The WQMP shall specify methods for determining time of concentration.

e) A feasibility analysis that includes technically-based feasibility criteria for project evaluation to determine the feasibility of implementing LID.

i. The feasibility analysis shall include a groundwater protection assessment to determine if structural infiltration BMPs are appropriate for the site

f) Integrate Watershed Action Plan and TMDL Implementation Plans into project-specific WQMPs in affected watersheds.

7. Within 12 months of adoption of this Order, a copy of the updated WQMP Guidance and Template shall be submitted for review and approval by the Executive Officer. of The Permittees shall implement the updated WQMP Guidance and Template within 90 days of approval. If the Executive Officer has not approved the WQMP Guidance and Template within 36 months of adoption of this Order, either the Permittees shall require implementation of LID BMPs, where feasible, or require project proponents to determine infeasibility of LID BMPs for each project through a project-specific analysis, each of which shall be submitted to the Executive Officer, at least 30 days prior to Permittee approval. Such feasibility determinations shall be certified by a Professional Civil Engineer registered in the State of California, and will be documented in the project WQMP, which shall be approved by the Permittee prior to submittal to the Executive Officer. Within 30 days of submittal to the Executive Officer, the Permittee will be notified if the Executive Officer intends to take any action.

~~8. If site conditions do not permit infiltration, harvesting and re-use, and/or evapotranspiration, and/or bio-treatment of the design capture volume at the project site as close to the source as possible, the alternatives a), b), and c), below, and the credits and in-lieu programs discussed under Section F, below, may be considered and implemented:~~

~~a. Implement LID principles to the MEP at the project site close to the point of storm water generation and infiltrate and/or harvest and re-use at least the design capture volume through designated infiltration/treatment areas elsewhere within the project site.~~

[24] ftp://ftp.sccwrp.org/pub/download/PDFs/450_peak_flow.pdf

~~b. Implement LID on a sub-regional basis. For example, at a 100 unit high density housing unit with a small strip mall and a school: connect all roof drains to vegetated areas (if there are any vegetated areas, otherwise storm water storage and reuse may be considered or else divert to the local storm water conveyance system, to be conveyed to the local treatment system), construct a storm water infiltration gallery below the school playground to infiltrate and/or harvest and re-use the design capture volume.~~

~~c. Implement LID on a regional basis. For example, several developments could propose a regional system to address storm water runoff from all the participating developments.~~

~~d. For alternatives a), b), and c) above, the pervious areas to which the runoff from the impervious areas are connected should have the capacity to infiltrate, harvest and re-use, evapotranspire and/or bio-treat at least the design capture volume from the entire tributary area.~~

F. Alternatives and In-Lieu Programs

1. If a preferred BMP is not technically feasible, other BMPs should be implemented to mitigate the project impacts, or if the cost of BMP implementation greatly outweighs the pollution control benefits, the Permittees may grant a waiver of the BMPs. All waivers, along with waiver justification documentation, must be submitted to the Executive Officer at least 30 days prior to Permittee approval of the WQMP. Only those projects that have completed a feasibility analysis as specified in the WQMP Guidance and Template (see Section XI.E.6.e) and approved by the Executive Officer shall be considered for alternatives and in-lieu programs.
2. The Permittees may collectively or individually propose to establish an urban runoff fund to be used for urban water quality improvement projects within the same watershed that is funded by contributions from developers granted waivers. The contributions should be at least equivalent to the cost savings for waived BMPs and the urban runoff fund shall be expended for water quality improvement or other related projects according to a schedule approved by the Executive Officer. If a waiver is granted and an urban runoff fund is established, the annual report for the year should include the following information with respect to the urban runoff fund:
   a. Total amount deposited into the fund and the party responsible for managing the urban runoff fund;
   b. Projects funded or proposed to be funded with monies from the urban runoff fund;
   c. Party or parties responsible for design, construction, operation and maintenance of urban runoff funded projects; and
   d. Current status and a schedule for project completion.

3. The obligation to install structural site design and/or treatment control BMPs at a new development is met if, for a common plan of development, BMPs are constructed with the requisite capacity to serve the entire common project, even if certain phases of the common project may not have BMP capacity located on that phase in accordance with the requirements specified above. The goal of the WQMP is to develop and implement practicable programs and policies to minimize the effects of urbanization on site hydrology, urban runoff flow rates, velocities, duration and time of concentration and pollutant loads. This goal may be achieved through watershed-based structural treatment controls, in combination with site-specific BMPs. All treatment control BMPs should be located as close as possible to the pollutant sources, should not be located within waters of the US, and pollutant removal should be accomplished prior to discharge to waters of the US. Regional treatment control BMPs shall be operational prior to occupation of any of the priority project sites tributary to the regional treatment BMP.
4. The Permittees may establish, where feasible and practicable, a water quality credit system for alternatives to LID and hydromodification requirements specified above. A summary of any waivers and any credit given for the types of projects listed below should be included in the annual report. The following types of projects may be considered for the credit system:
    a. Redevelopment projects that reduce the overall impervious area
    b. Brownfield redevelopment
    c. High density developments (>7 units per acre)
    d. Mixed use and transit-oriented development (within ½ mile of transit)
    e. Dedication of undeveloped portions of the project site to parks, preservation areas and other pervious uses
    f. Regional treatment systems with a capacity to treat flows from all upstream developments
    g. Contribution to an urban runoff fund (see F.1.e, above)
    h. Offsite mitigation within the same watershed (see E.5.d.iii above)
    i. City Center area
    j. Historic Districts and Historic Preservation areas
    k. Live-work developments
    l. In-fill projects

G. Approval of WQMP

Within 12 months of adoption of this Order, each Permittee shall develop and implement standard procedures and tools, and include in its LIP the following:

1. A WQMP review checklist that incorporates the required elements of the WQMP and a clear process for consultation early in the planning process with the

Permittee's appropriate departments and sections. This review process shall involve the Permittee's Planning Department during the preliminary and final WQMP review to adequately incorporate project-specific water quality measures and watershed protection principles in their CEQA analysis.

2. Tools or procedures to incorporate project conditions of approval, including proper funding and maintenance and operation of all structural BMPs. The parties responsible for the long-term maintenance and operation of the BMPs upon project close-out and a funding mechanism for operation and maintenance shall be identified prior to approval of the WQMP.
3. A Permittee-specific procedure to ensure that appropriate easements and ownerships are recorded/included in appropriate documents that provides the Permittee the authority for post-construction BMP operation and maintenance (also see J.1, below).
4. A final project close-out procedure and checklist to ensure that post-construction BMPs (site design, structural source control and treatment control BMPs) have been built as per the approved WQMPs or other conditions of approval and are fully functional prior to issuance of certificates of occupancy (also see I.1 and 2, below).
5. A procedure to work cooperatively with the local vector control district to address any vector problems associated with the water quality control systems. If not properly designed and maintained, some of the BMPs implemented to treat urban runoff could create a habitat for vectors (e.g., mosquitoes and rodents) and become a nuisance. The WQMP review, approval, and closure processes shall include consultation and collaboration with the local vector control districts on BMP design, installation, and operation and maintenance to prevent or minimize vector issues. If vector or nuisance problems are identified during inspections, the local vector control district should be notified.
6. The Permittees shall train those involved with WQMP review and approval in accordance with Section XVI, Training Requirements.

H. Field Verification of BMPs

1. The Permittees' project close-out procedures shall include field verification that site design, source control and treatment control BMPs are designed, constructed and functional in accordance with the approved WQMP. Documentation of the verification inspection, including the WDID number, if applicable, information on the type, location and maintenance responsibility of the BMPs shall be sent to the Regional Board office by regular mail or electronic mail.
2. The Permittees shall verify, through visual observation, that the BMPs are properly maintained, operating, and are functional.
3. In addidtion, post-construction BMPs shall be inspected, prior to the rainy season, within three years after project completion and every three years thereafter.

I. Change of Ownership and Recordation

1. The Permittees shall establish a mechanism to track changes in ownership and responsibility for the operation and maintenance of post-construction BMPs to ensure that they are properly recorded in public records at the County and/or City and the information is conveyed to all appropriate parties when there is a change in project or site ownership.
2. The Permittees shall maintain a database to track all structural treatment control BMPs, including the location of BMPs, parties responsible for construction, funding, operation and maintenance.

J. Operation and Maintenance of Post-Construction BMPs

1. The Permittees shall ensure that all post-construction BMPs continue to operate as designed and implemented with control measures necessary to effectively minimize the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, flies, etc. WQMPs shall identify the responsible party for maintenance, including vector minimization and control measures, and funding source(s) for operation and maintenance of all site design and structural treatment control systems. Permittees shall, through conditions of approval and during inspections, ensure proper maintenance and operation of all permanent ~~flood control structures~~ and structural post-construction BMPs installed in new developments prior to issuance of certificate of occupancy. Design of these structures shall allow adequate access for maintenance. Each Permitttee shall ~~maintain a database to track the operation and maintenance of the post-construction BMPs and~~ annually review the adequacy of the long term operation and maintenance mechanisms it utilizes.

~~2. The parties responsible for the maintenance and operation of the facilities, and a funding mechanism for operation and maintenance shall be identified prior to issuance of occupancy permits.~~

3. Within twelve months of adoption of this Order, the Permittees shall develop a database to track operation and maintenance of post-construction BMPs. The database shall include type of BMP design, location of BMPs (latitude and longitude), date of construction, party responsible for maintenance, maintenance frequency, source of funding for operation and maintenance, maintenance verification, and any problems identified during inspection including any vector or nuisance problems. A copy of this database shall be submitted with the annual report.
4. The annual report shall include a list of all structural treatment control BMPs approved, constructed and/or operating within each Permittee's jurisdiction.

K. Pre-Approved Projects

1. The above provisions shall be implemented in a manner consistent with the maximum extent practicable standard for all priority projects 90 days from the

date of approval of the updated Water Quality Management Plan Guidance and Template as per Section XI.E.6.

2. The above provisions for LID and hydrologic conditions of concern are not applicable to projects that have an approved WQMP as of the date of adoption of this Order. The Regional Board recognizes that full implementation may not be feasible for certain projects which have received tentative tract or parcel map or other approvals.

L. Road Projects

1. The Principal Permittee, in cooperation with the Co-Permittees, shall develop standard design and post-development BMP guidance to be incorporated into projects for public streets, roads, highways, and freeway improvements,to reduce the discharge of pollutants from the projects to the MEP. The guidance and BMPs shall address any paved surface used for transportation of automobiles, trucks, motorcycles, and other vehicles, and excludes routine road maintenance activities where the surface footprint is not increased. The guidance shall include the following:
   a. Guidance specific to new road projects;
   b. Guidance specific to projects for existing roads;
   c. Size or impervious area criteria that trigger project coverage;
   d. Preference for green infrastructure approaches wherever feasible;
   e. Criteria for design and BMP feasibility analyses.